

(No Model.)

J. WILLIAMS.
VENTILATOR.

No. 364,074.

Patented May 31, 1887.

Fig: 1.

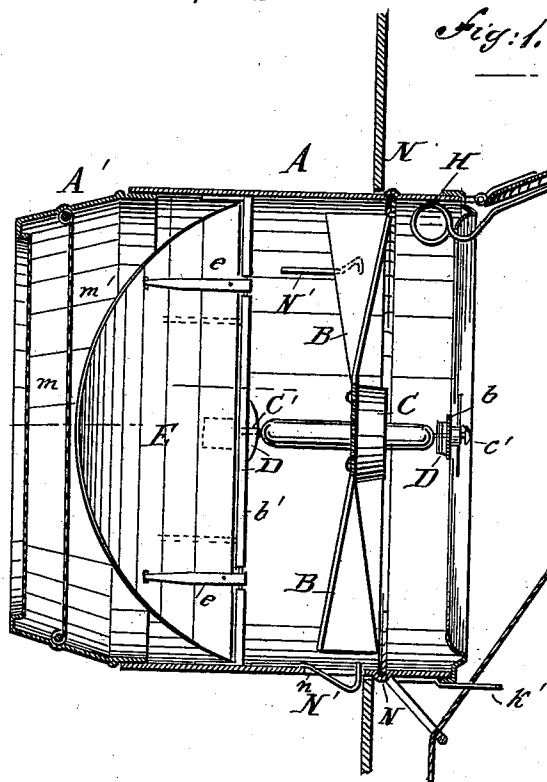


Fig: 3.

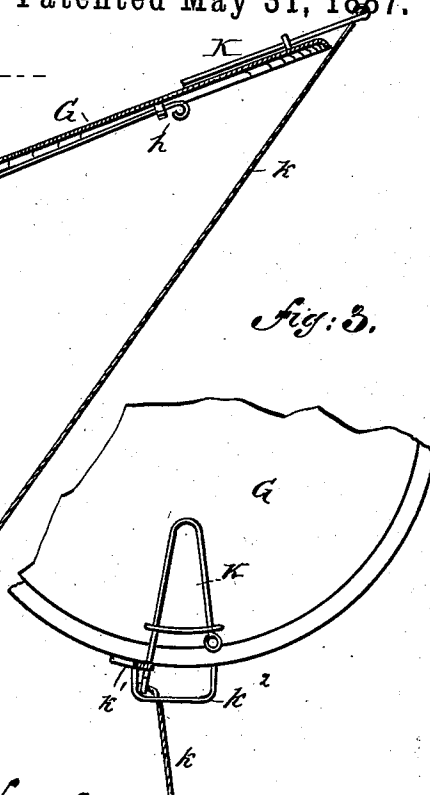
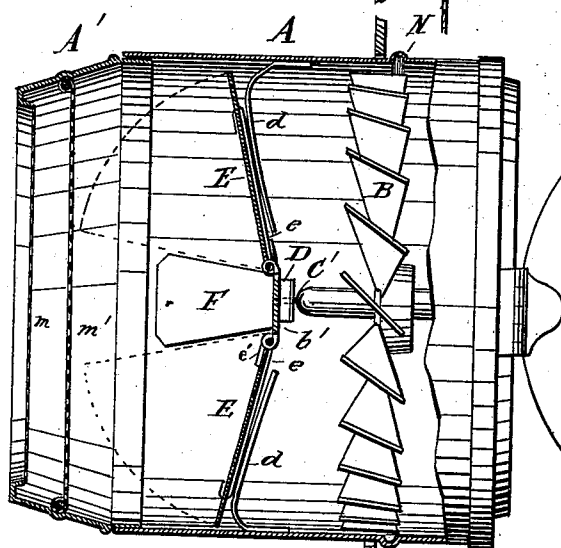
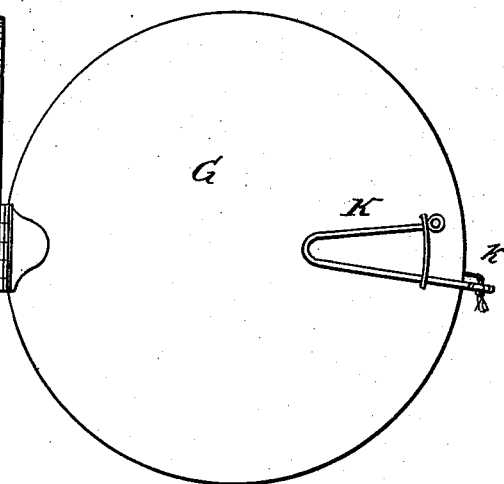


Fig: 2.



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UNITED STATES PATENT OFFICE.

JOHN WILLIAMS, OF QUEBEC, QUEBEC, CANADA.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 364,074, dated May 31, 1887.

Application filed February 8, 1887. Serial No. 226,939. (No model.) Patented in Canada March 30, 1886, No. 23,725.

To all whom it may concern:

Be it known that I, JOHN WILLIAMS, of Quebec, in the Province of Quebec and Dominion of Canada, have invented a new and Improved Ventilator, of which the following is a full, clear, and exact description.

My invention relates to an improvement in ventilators for windows or shafts, and has for its object to provide a ventilator with means for counteracting back-drafts when used in connection with a shaft, and means for securing the noiseless running of the fan-wheel, together with means for cutting off the current of air when found desirable.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a central vertical section through my ventilator. Fig. 2 is a plan view and partial horizontal section through the same. Fig. 3 is a front elevation broken away, illustrating the spring-catch of the cover.

The body of the ventilator is made in two sections, A and A', of which the front section, A, is the larger, the rear and smaller section, A', being adapted to detachably slide in the rear of the front section, as shown.

Within the front section of the ventilator a fan-wheel, B, of a diameter nearly equal to the diameter of the said section, is journaled in a horizontal bar, b, extending centrally from side to side at the front, and a second vertical bar, b', attached at top and bottom of said front section, A.

The fan-wheel B is provided with a wooden hub, C, through which a steel spindle, C', is projected, the ends of which spindle work in non-metallic bearings D—such as rawhide, leather, cork, or wood—attached in any approved manner to the aforesaid diametrical bars b b'. The fan-wheel is thus made to turn easily and truly without noise.

Semicircular valves E, of mica or similar light material, are attached to the edges of the diametrical rear bar, b', by clip-hinges e, which hinges and valves may be removed at pleasure, for purposes hereinafter described.

The outer edges of the valves E are made to conform with the inner contour of front section, A, and the forward movement of said valves is limited by strips d, rigidly attached to the sides of the ventilator-casing substantially in horizontal alignment with the edges of the bars b', and the said valves are limited in opening to a certain angle by a V-shaped stop, F, attached at its contracted end to the outer side of the said diametrical bar b', between the valves. Thus when the valves are opened, as shown in dotted lines in Fig. 2, their outer faces come in contact with the edges of said stop.

The ventilator is provided with a cover, G, hinged at the top of the front of the section A, as shown in Fig. 1, the said cover being of a size about equal to the size of said section, and purposed to close the opening when necessary. The cover is actuated by a coil-spring, H, fastened to the inner side of the section A at the top, near its front opening, one end of which spring is made to extend parallel with the under face of the cover, having its extreme end enlarged, and is held in engagement with the cover by a bracket, h, spanning said end and attached centrally to said cover. The cover is also provided centrally upon its outer face at the bottom with a spring-latch, K, which, when the cover is drawn down by aid of a cord, k, attached to the projecting end of said latch, will engage with a catch, k', upon the lower front edge of the casing. The cord k in its downward passage is made to pass through a guide, k², secured to the casing below the catch k', as illustrated in Figs. 1 and 3.

When the closed cover is to be opened, the cord is pulled smartly to the right. The spring-latch is thereby disengaged, and the cover is thrown open by means of the long arm of the aforesaid coil-spring H, attached at the upper inside of the case. The rear section, A', of the ventilator is provided at its rear end with a wire screen, m, attached thereto, and a second screen, m', of the same material, also attached to the casing in any suitable manner, a space being made to intervene the two screens. The purpose of the screens is to act as a dust-filter for the ventilator.

In operation, the ventilator is placed in an opening in the wall or a hole in a pane of glass. In the latter it may be securely fastened by the

aid of the molding N, formed in the front section, and three or more spring-catches, N', secured in said section to the rear of the molding, which catches project from said casing through apertures n, cut therein, as shown in Fig. 1.

When the ventilator is used in chimney-pipes or ventilating-shafts, the detachable valves E are employed, and upon the least indication of back-draft the said valves close and cut off the current. As soon as the pressure is removed, however, the valves open again and allow the foul air to pass out from the chamber. The rear section carrying the filters may or may not be used in this case, as found most desirable.

The end of the strap forming the hinge e is bent upon itself, to engage a wire held in the edge of the bar b'. To remove the valves, it is only needful to slightly bend out the bent-over part e' of the hinges, when the valves can be readily removed. When the valves are thus removed and the front and rear sections, A A', united, the ventilator is complete for a window, an unobstructed passage being had from end to end.

Having thus fully described my invention,

I claim as new and desire to secure by Letters Patent—

1. In a ventilator, the combination, with the fixed cylindric section having the winged fan, and the removable section applied to the aforesaid section and provided with the duplex screens, of the valves hinged centrally within said fixed section and adapted to close against back-drafts, said valves having applied to one side straps connected to said fixed section, and which valves are limited in their movement in one direction by a stop within said fixed section, substantially as and for the purpose specified.

2. The combination, with the fixed cylindric section having the winged fan, of the valves hinged centrally within said section and adapted to close against back-drafts, said valves having applied to one side straps connected to said section, and which valves are limited in their movement in one direction by a stop arranged within said section, substantially as and for the purpose set forth.

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Witnesses:

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